



# HARRIS COUNTY MASTER GARDENERS 2023 PLANT SALES



For more information go to: [hcmga.tamu.edu/plant-sales/](http://hcmga.tamu.edu/plant-sales/)  
For questions, please email: [plantsales.harrishort@gmail.com](mailto:plantsales.harrishort@gmail.com)

## NORTHWEST SALES

9:30 a.m. – 1:30 p.m. or until supplies last

*New location:*

5373 Franz Rd, Katy, TX @ St. Paul's Episcopal Church

**February 11th**

Fruit Tree Sale

*All HCMGA citrus plants will be sold only at this location.*

**April 22nd**

Spring Sale -  
Perennials & Peppers

Cy-Fair Home and Outdoor Living Show at the

## BERRY CENTER

9:00 a.m. – 1:00 p.m. or until supplies last

8877 Barker Cypress Rd., Cypress, TX 77433

**March 25th & 26th**

Spring Sale - Fruit Trees & Perennials

## SOUTHEAST SALES

*Citrus not available at this location.*

9:00 a.m. – 1:00 p.m. or until supplies last

Genoa Friendship Gardens (GFG), 1210 Genoa Red Bluff Rd., Houston, 77034

Online sale at: <https://hcmga.tamu.edu/shop/>

**February 18th & 20th**

Tomato Sale

Online store opens Feb. 1st - Feb. 16th

Pick up day - Feb. 18th

**March 18th & 20th**

Fruit Tree Sale

Online store opens Mar. 1st - Mar. 16th

Pick up day - Mar. 18th

An in-person sale option is available for remaining plant inventory on all Saturday pickup days.  
Southeast Sale ONLY: Order online for the best selections. Monday is our Open Garden Day; tours of our demonstration gardens and plant trials will be provided along with plant sales.

**April 15th & 17th**

Perennials & Peppers

Online store opens Apr. 1st - Apr. 13th

Pick up day - Apr. 15th

**May 20th & 22nd**

Vegetables & Herbs

Online store opens May 1st - May 18th

Pick up day - May 20th



Individuals with disabilities who require an auxiliary aid, service or accommodation in order to participate are encouraged to contact the County Extension Office prior to the sale to determine how reasonable accommodations can be made.

# Reasons to Shop the Harris County Master Gardener Association

**2023 Fruit Tree Sale**

**February 11, 2023**

**New Location:**

**5373 Franz Road, Katy, Texas @ St. Paul's Episcopal Church**

1. A completely coordinated in-person sale with catalog, plant list and planting instruction, ample adjacent parking, and convenient and assisted loading zone.
2. This year's sale will include many different citrus trees, dwarf citrus trees, non-citrus trees, avocado trees, almond trees, figs, and berry plants. And the best prices in Houston.
3. Children's activities with our Growing with Plants and Nature crew. Fun filled gardening activities for the future gardeners.
4. Sales staff are all Harris County Master Gardener volunteers to assist customers in their selection of trees, plants and more. As well as advice for the proper planting, feeding and tending of all plants on sale.
5. "Ask a Master Gardener" members are available to discuss any questions gardeners may be experiencing in their yards, supported with published AgriLife Extension brochures and literature to guide them through fertilizing, planting, and garden and yard maintenance.

**Harris County Master Gardener Association**  
**13105 Northwest Freeway, #100, Houston, Texas 77040**

<http://hcmga.tamu.edu>

[www.facebook.com/HarrisCountyMasterGardeners](http://www.facebook.com/HarrisCountyMasterGardeners)

[www.facebook.com/HarrisCountyHorticulture](http://www.facebook.com/HarrisCountyHorticulture)

# Harris County Master Gardener Association

## Fruit Tree Handbook

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### Pricing

Almond	3 gallon	\$ 35.00
Apple	3 gallon	\$ 35.00
Apricot	3 gallon	\$ 35.00
Avocado	3 gallon	\$ 55.00
Blackberry	3 gallon	\$ 25.00
Blueberry	3 gallon	\$ 25.00
<i>Dwarf</i> Citrus	3 gallon	\$ 55.00
Fig	3 gallon	\$ 25.00
Grapefruit	3 gallon	\$ 45.00
Lemon	3 gallon	\$ 45.00
Lime	3 gallon	\$ 45.00
Mandarin	3 gallon	\$ 45.00
Mulberry	3 gallon	\$ 25.00
Nectarine	3 gallon	\$ 35.00
Orange	3 gallon	\$ 50.00
Peach	3 gallon	\$ 35.00
Pomegranate	3 gallon	\$ 30.00
Pummelo	3 gallon	\$ 55.00
Satsuma	3 gallon	\$ 55.00
Tangelo	3 gallon	\$ 55.00
Tangerine	3 gallon	\$ 55.00

Availability may vary the day of sale.

## 2023 Fruit Trees, Avocado Trees, Almond Trees, Figs and Berries

All Plants 3 gallon pots

	<b>Citrus:</b>	<b>Variety</b>
A-1	Grapefruit	Bloomsweet
A-2	Grapefruit	Rio Red
A-3	Lemon	Eureka Frost
A-4	Lemon	Improved Meyer
A-5	Lemon	Lisbon Seedless
A-6	Lemon	New Zealand Lemonade
A-7	Lemon	Ujukitsu
A-8	Lime	Persian
A-9	Mandarin	Clementine
A-10	Mandarin	Honey
A-11	Mandarin	Kishu Seedless
A-12	Mandarin	Page
A-13	Mandarin	Pixie
B-1	Orange	Blood - Moro
B-2	Orange	Blood - Tarocco
B-3	Orange	Cara Cara
B-4	Orange	Navel N-33
B-5	Orange	Pineapple
B-6	Orange	Republic of Texas
B-7	Orange	Washington Navel
B-8	Pummelo	Chandler
B-9	Satsuma	Brown Select
B-10	Satsuma	Dobashi Beni
B-11	Satsuma	Miho
B-12	Satsuma	Okitsu Wase
B-13	Satsuma	Owari
B-14	Satsuma	Seto
B-15	Tangelo	Minneola
B-16	Tangerine	Dancy

	<b>Citrus - Dwarf:</b>	<b>Variety</b>
C-1	Lemon	Improved Meyer (DWARF)
C-2	Lemon	Ujukitsu (DWARF)
C-3	Lime	Persian (DWARF)
C-4	Mandarin	Clementine (DWARF)
C-5	Orange	Blood - Moro (DWARF)
C-6	Orange	Blood - Tarocco (DWARF)
C-7	Orange	Navel N-33 (DWARF)
C-8	Orange	Pineapple (DWARF)

	<b>Non-Citrus:</b>	<b>Variety</b>
D-1	Apple	Anna
D-2	Apple	Ein Sheimer
D-3	Apple	Fuji
D-4	Apple	Golden Dorsett
D-5	Apricot	Gold Kist
D-6	Apricot	Katy
D-7	Nectarine	Snow Queen
D-8	Peach	August Pride
D-9	Peach	Eva's Pride
D-10	Pomegranate	Dwarf Red
D-11	Pomegranate	Kandahar Early
D-12	Pomegranate	Parfianka

	<b>Avocado:</b>	<b>Variety</b>
E-1	Avocado	Brazos Belle
E-2	Avocado	Fantastic
E-3	Avocado	Joey <sup>TM</sup>
E-4	Avocado	Pancho

	<b>Figs:</b>	<b>Variety</b>
E-5	Fig	Black Mission
E-6	Fig	Celeste
E-7	Fig	Ischia
E-8	Fig	Little Ruby
E-9	Fig	LSU Gold
E-10	Fig	LSU Purple

	<b>Berries:</b>	<b>Variety</b>
F-1	Blackberry	Natchez
F-2	Blackberry	Prime Ark Freedom
F-3	Blackberry	Prime Ark 45
F-4	Blueberry	Emerald (Southern Highbush)
F-5	Blueberry	Jewel (Southern Highbush)
F-6	Blueberry	Rebel (Southern Highbush)
F-7	Blueberry	Sunshine Blue (Southern Highbush)
F-8	Blueberry	Climax (Rabbiteye)
F-9	Blueberry	Pink Lemonade, Hybrid (Rabbiteye)
F-10	Blueberry	Premiere (Rabbiteye)
F-11	Blueberry	Tifblue (Rabbiteye)
F-12	Mulberry	Dwarf

	<b>Almond</b>	<b>Variety</b>
F-13	Almond	All-In-One

# Harris County Master Gardener Association

## Fruit Tree Sale February 11, 2023

New Location:

### 5373 Franz Road, Katy, Texas @ St. Paul's Episcopal Church

### Citrus Fruit Trees

Row	Fruit	Variety	Cold Hardy	Description
A-1	Grapefruit	Bloomsweet (Carrizo Rootstock)	to mid 20's	Large-growing, vigorous tree. A cross between a pummelo and sweet orange. The fruit is very good and easy to peel and segment. Ripens Nov–Dec.
A-2	Grapefruit	Rio Red (Carrizo Rootstock)	to mid 20's	Large fruit with smooth, thin, yellow rind. Blushes red once mature. Deep red flesh and juicy with few seeds. Ripens mid to late November. Holds on tree until March.
A-3	Lemon	Frost Eureka (Trifoliolate Rootstock)	to high 20's	Produces an abundance of fine, market-quality lemons year round. Large, juicy fruit with very few seeds. Attractive landscape or patio container specimen with bronze-purple new growth. Evergreen.
A-4	Lemon	Improved Meyer (Carrizo Rootstock) <b>Dwarf Also Available</b>	to high 20's	A small tree with continuous crops of large, moderately seedy fruit from August–January. Thin skinned with smooth bright golden form. Tree is cold hardy in warmer parts of Houston, freezes to the ground in hard freeze (every 20 years) and produces again in 18 months. About 10' tall and 8'–10' diameter.
A-5	Lemon	Lisbon Seedless (Carrizo Rootstock)	to high 20's	Grafted on dwarf rootstock, so makes great container plant on porch, patio, or indoors. Blooms and fruits throughout the year, but main crop occurs in winter and early spring. Seedless. What you want if you're looking for the type of lemon found in the grocery store. Popular as a flavoring in foods and drinks.
A-6	Lemon	New Zealand Lemonade (Carrizo Rootstock)	to high 20's	One of our new favorites, this sweet, juicy fruit actually tastes like lemonade! It is a sweet lemon hybrid of unknown parentage with distinctive black colored branches. Mature trees set several heavy crops each year with very pleasant, sweet, lemonade-like flavor.
A-7	Lemon	Ujukitsu (Carrizo Rootstock) <b>Dwarf Also Available</b>	to high 20's	Called the 'lemonade fruit', this variety is a cross between a lemon and an orange. It ripens to a bright yellow with a pear-shaped form that's quite large. The fruit is amazingly sweet and juicy with a thick rind that peels easily. Slower growing than most lemon trees, yet when it reaches two or more feet it will flower and fruit with great regularity. Springtime brings a flush of fragrant blooms.
A-8	Lime	Persian (Carrizo Rootstock) <b>Dwarf Also Available</b>	to high 20's	Compact, medium-sized tree with dark green leaves with very few small thorns. Small fruit, with thin dark green skin gradually turning light green, then yellow at full maturity. Fruit is somewhat larger than the Mexican or Key lime. Very aromatic, juicy and acidic with few or no seeds. Ripens mid-September to early October. Doesn't hold well on the tree after reaching full maturity.
A-9	Mandarin	Clementine (Carrizo Rootstock) <b>Dwarf Also Available</b>	to low 20's	The sweet flavor is hard to resist and it ripens early. Easy to grow. Tolerates high heat. Peel is smooth, bright orange, and easy to remove. Fruit can be easily separated into segments and are almost always seedless, with only a hint of acid. 8' - 10' x 3' - 4'.
A-10	Mandarin	Honey (Carrizo Rootstock)	to low 20's	Extremely sweet and juicy. Virtually seed free and thin skinned. Easy to peel. Flavor is reminiscent of honey with the warmth of cinnamon. Tree can be kept small to moderately sized. Produces fragrant, tiny white flower blossoms.
A-11	Mandarin	Kishu Seedless (Carrizo Rootstock)	to low 20's	Small to medium-sized tree with dwarfing characteristics. Fruit is small to medium size, with a thin, bright orange, easy-to-peel rind. Sweet, juicy, mild flavored and seedless. Ripens November through December and holds well on the tree into January.

## Citrus Fruit Trees (continued)

Row	Fruit	Variety	Cold Hardy	Description
A-12	Mandarin	Page (Carrizo Rootstock)	to low 20's	A cross between the Minneola tangelo and the Clementine mandarin. The round fruit is a deep orange, sweet and juicy, with numerous seeds. The rind is also deep reddish orange which is thin but easy to peel. The shiny, dark green leathery leaves compliment the abundance of early ripening small orange fruit. This is an excellent container plant because it is easily pruned to any size.
A-13	Mandarin	Pixie (Carrizo Rootstock)	to low 20's	Result of cross-pollination between King and Dancy. Mild, yet sugary-sweet flavor. Seedless and exceptionally easy to peel. Pixies will bloom from March through June, maturing in late winter.
B-1	Orange	Blood, Moro (Carrizo Rootstock) <b>Dwarf Also Available</b>	to high 20's	Vigorous growing, slightly spreading tree. Young trees may be slow to begin bearing fruit. Fruit is small to medium with a thin orange rind becoming bright red blushed at maturity. Flesh is juicy with few seeds, and can range from light orange/red early to almost purple later in the season. Ripens early to mid-January. Holds well on the tree until March.
B-2	Orange	Blood, Taracco (Carrizo Rootstock) <b>Dwarf Also Available</b>	to high 20's	The sweetest of the blood orange family. Fruit is teardrop shaped and seedless. Excellent for juicing or cooking as well as eating fresh. Its rich, juicy flavor is reminiscent of raspberry.
B-3	Orange	Cara Cara (Carrizo Rootstock)	to mid 20's	Bright orange exterior similar to other navels, but its interior is a distinctive pinkish red with an exceptionally sweet flavor with a tangy cranberry-like zing, and they're seedless. It's a cross between the Washington navel and the Brazilian Bahia navel.
B-4	Orange	Navel N-33 (Carrizo Rootstock) <b>Dwarf Also Available</b>	to mid 20's	Medium to large, round-headed tree with deep green foliage. Fruit is large, with moderately thick rind. Rich flavor, with nicely balanced sugar and acid. Very juicy and seedless. Moderately easy to peel and separate into segments. Ripens early to mid November and holds well on the tree until end of January.
B-5	Orange	Pineapple (Carrizo Rootstock) <b>Dwarf Also Available</b>	to low 30's	Produces an excellent quality juice. Richly flavored and moderately seedy. High sugar content. Peel turns deep reddish-orange at maturity. Known as an alternate bearer, meaning it produces a heavy crop one year and a lighter one the next. Ripens December to February.
B-6	Orange	Republic of Texas (Carrizo Rootstock)	to low 20's	Documented back to 1847 near Angleton, Texas. Medium to large round orange. Very flavorful. Very cold tolerant. A great, sweet orange that everyone should grow. Ripens November through December.
B-7	Orange	Washington Navel (Carrizo Rootstock)	to mid 20's	Easily peeled, seedless fruit is produced by this medium-sized tree. Fragrant flowers in spring and handsome foliage year-round. Famous for its winter fruits. Holds well on the tree.
B-8	Pumello	Chandler	to high 20's	Grapefruit tree ancestor. Produces large, sweet fruit that can weigh up to 9 lbs! Glossy yellow rind with pink blush. Juicy and extremely sweet. Has beautiful deep pink to red color that is easily segmented. Evergreen with large, glossy leaves. A vigorous grower with enormous white fragrant flowers before fruit appears in the fall. 8'-12' x 10'-12' when planted in the ground. Easily kept smaller if grown in a container.
B-9	Satsuma	Brown Select (Carrizo Rootstock)	to mid 20's	Medium sized, bright orange fruit with a slightly bumpy rind. The seedless fruit has an very sweet and sprightly flavor. They are very easy to peel and the fruits easily break off into segments.
B-10	Satsuma	Dobashi Beni (Carrizo Rootstock)	to low 20's	This variety has a darker redish/orange color and a slightly sweeter, less acidic taste. A favorite with people that struggle with acid indigestion and heartburn problems! A mild, sweet, seedless, zipper-skinned fruit that is easy to peel. It is harvested end of October and into November.
B-11	Satsuma	Miho (Carrizo Rootstock)	to low 20's	Medium-sized tree with deep green foliage that is extremely cold hardy. Medium-sized, bright red-orange fruit. Rind is smooth, thin and leathery. Fruit has an extremely sweet, sprightly flavor and is seedless. Very easy to peel and breaks off into segments. Ripens late September to early October and is often ready to eat when rind is still green. Fruit holds well on tree until late December.

## Citrus Fruit Trees (continued)

Row	Fruit	Variety	Cold Hardy	Description
<b>B-12</b>	Satsuma	Okitsu Wase (Carrizo Rootstock)	to low 20's	Produces large, seedless fruit with loose, easy peel skin. It's squashed, flattened appearance makes it easy to identify. Flesh is juicy with a sweet, tangy flavor. Self-fertile, but fruit will be larger if planted with a second tree. Bears fruit 1-2 yrs after planting. Grows 4' to 6'. Blooms in spring and ripens late fall to winter.
<b>B-13</b>	Satsuma	Owari (Carrizo Rootstock)	to low 20's	The original satsuma. Very good flavor, great production. Has 0–6 seeds per fruit. As maturity passes, the neck increases in size. The rind roughens and loosens. Tree moderately vigorous but slow-growing; medium-small, spreading and drooping, very productive. Ripens late November.
<b>B-14</b>	Satsuma	Seto (Carrizo Rootstock)	to low 20's	Medium sized spreading tree with deep green foliage that is extremely cold hardy. Medium sized, flat, bright, red-orange fruit with a smooth thin rind. Fruit has an extremely sweet, sprightly flavor and is seedless. Very easy to peel and breaks off into segments. Ripens late September to early October and is often ready to eat when rind is still green. Fruit holds well on the tree until late December.
<b>B-15</b>	Tangelo	Minneola (Carrizo Rootstock)	to mid 20's	Easily identified by the knob-like formation at the stem end and their deep orange color. Has smooth to slightly pebbled texture, peels very easily, and has few if any seeds. Distinguished from other citrus species by the relatively loose skin of the fruit and relative ease with which the segments can be separated.
<b>B-16</b>	Tangerine	Dancy (Carrizo Rootstock)	to low 30's	First cultivated in Florida in 1867. Has sweet, red/orange flesh. Lower level of acidity than oranges. Thin rind is easy to peel and the slices are easy to pull apart without making a mess. Flourishes in the ground and in containers. Ripens in December, giving it the nickname of the "Christmas Tangerine."

## Citrus Fruit Trees - DWARF

Row	Fruit	Variety	Cold Hardy	Description
<b>C-1</b>	Lemon	Improved Meyer - DWARF (Flying Dragon Rootstock)	to high 20's	Sometimes called the perfect lemon tree. Tolerates versatile growing conditions and produces outstanding fruit. It would be equally spectacular as a houseplant, ornamental patio plant or as a focal point in your yard. About 5'-10' tall and 2'-3' mature spread.
<b>C-2</b>	Lemon	Ujukitsu - DWARF (Flying Dragon Rootstock)	to high 20's	Called the 'lemonade fruit', this variety is a cross between a lemon and an orange. It ripens to a bright yellow with a pear-shaped form that's quite large. The fruit is amazingly sweet and juicy with a thick rind that peels easily. Slower growing than most lemon trees, yet when it reaches two or more feet it will flower and fruit with great regularity. Springtime brings a flush of fragrant blooms.
<b>C-3</b>	Lime	Persian - DWARF (Flying Dragon Rootstock)	to high 20's	Handsome, compact, medium-sized tree with dark green leaves that are larger than the leaves of the Mexican or Key Lime. Tree has very few small thorns. Small fruit, with a thin dark green skin gradually turning light green then yellow at full maturity. Fruit is somewhat larger than the Mexican or Key lime. Very aromatic, juicy and acidic with few or no seeds. Ripens mid-September to early October. Can be used while still green. Doesn't hold well on the tree after reaching full maturity.
<b>C-4</b>	Mandarin	Clementine - DWARF (Flying Dragon Rootstock)	to low 20's	The sweet flavor is hard to resist and it ripens early. Easy to grow. Tolerates high heat. Peel is smooth, bright orange, and easy to remove. Fruit can be easily separated into segments and are almost always seedless, with only a hint of acid.
<b>C-5</b>	Orange	Blood, Moro - DWARF (Flying Dragon Rootstock)	to high 20's	A natural cross between a pomelo tree and a tangerine tree. The Dwarf Moro Blood Orange is the newest variety among the most common types of blood oranges. Produces medium-sized sweet, juicy, blood-colored oranges with few to no seeds. An evergreen citrus tree with round top and spreading growth habit.

## Citrus Fruit Trees - DWARF (continued)

Row	Fruit	Variety	Cold Hardy	Description
C-6	Orange	Blood, Tarocco - DWARF (Flying Dragon Rootstock)	to high 20's	Sweetest of all the blood orange varieties with tangy notes of raspberry. Rind has no red coloration. The flesh is splashed with a beautiful red blush. That red color is usually most concentrated on the bottom end of the fruit with a gradation to a yellow-orange on the stem end of the fruit.
C-7	Orange	Navel N-33 - DWARF (Flying Dragon Rootstock)	to mid 20's	Medium to large, round-headed tree with deep green foliage. Fruit is large, with moderately thick rind. Rich flavor, with nicely balanced sugar and acid. Very juicy and seedless. Moderately easy to peel and separate into segments. Ripens early to mid November and holds well on the tree until end of January.
C-8	Orange	Pineapple - DWARF (Flying Dragon Rootstock)	to low 30's	Produces an excellent quality juice. Richly flavored and moderately seedy. High sugar content. Peel turns deep reddish-orange at maturity. Known as an alternate bearer, meaning it produces a heavy crop one year and a lighter one the next. Ripens December to February.

### What's the Difference between Oranges, Mandarins, Satsumas, Clementines, Tangerines and Tangelos?

**Oranges:** Have a thick skin, are round in shape, and are the common sweet orange. Some types of oranges are called "navels" due to the belly button-like area on the ends of them.

**Blood Oranges:** A variety of the sweet orange. Red coloring is due to the high anthocyanin content.

**Mandarins:** A type of orange and the category that Tangerines, Clementines, and Satsumas fall into. They are generally smaller and sweeter than oranges and a little flatter in shape. They have a thinner, looser skin that makes them easier to peel.

**Satsumas:** A specific type of mandarin orange, originating in Japan over 700 years ago. They are a lighter orange, sweet, juicy, and seedless. They are also the easiest variety to peel. The most tender, easily damaged of mandarins, Satsuma mandarins are harder to find fresh in stores.

**Clementines:** The smallest type of mandarin orange. They are super sweet, seedless, and have red-orange skins that are smooth and shiny. The mandarins you see in grocery stores called *Cuties* and *Sweeties* are Clementines. They are easier to peel than Tangerines, but not as easy as Satsumas.

**Tangerines:** A specific type of mandarin orange. They are bright orange in color, with slightly tougher skins and a flavor a little less sweet and a bit more tart than an orange. Tangerines have slightly softer skins than oranges. The advantage of the soft skins is that tangerines are easy to peel.

**Tangelos:** You may have seen tangelos at the grocery store and mistaken them for oranges. The sweet-fleshed, juicy fruit is a hybrid of grapefruit or pummelo, and any variety of mandarin orange. Tangelos can be the size of a normal orange, but may grow as large as grapefruits.

## Non-Citrus Fruit Trees

Row	Fruit	Variety	Chill-Hours (See Page 8)	Description
D-1	Apple	Anna	200	Large crops. Sweet and crisp. Stores two months. Self-fruitful, but better production if pollinated by Golden Dorsett. Low-chilling, yellow apple with a slight red blush. Ripens late June, softens fast and should be handled carefully.
D-2	Apple	Ein Sheimer	100	Heavy-bearing, very low chilling requirement. Sweet, yellow apples in early summer. Excellent pollinizer for Anna. Self-fruitful.
D-3	Apple	Fuji	200-400	Flowers in mid to late spring and produces fruit that ripens in October. Perfect for the backyard garden as they are adaptable to a wide variety of soil conditions. Likes partial to full sun. Smaller than other apple varieties, growing to a mature height of 10-15 feet, and a width of up to 10 feet.



## Non-Citrus Fruit Trees (continued)

Row	Fruit	Variety	Chill-Hours (See Page 8)	Description
D-4	Apple	Golden Dorsett	100	Large, firm, golden delicious type. Very low chill requirement. Picked with a pink slight blush. Flavor is sweet. Fruit is firm and will store several weeks in the refrigerator. Bloom period overlaps with Anna and the two varieties planted together provide good cross-pollination. Ripens mid to late June.
D-5	Apricot	Gold Kist	300	One of the earliest blooming varieties available. Best for areas with mild winters as late frosts could damage developing flowers and fruits. Freestone fruits are large with firm flesh and sweet flavor.
D-6	Apricot	Katy	300-400	Large apricot with red-blushed skin and deep yellow flesh; freestone flesh is firm mild and sweet. Early harvest early to mid-May.
D-7	Nectarine	Snow Queen	250	One of the sweetest and juiciest of all nectarines, featuring snow white flesh and freestone fruit. It is a consistent taste test winner and constantly astounds the uninitiated with its bright white flesh. Snow Queen is early ripening but prefers a warm climate. Self pollinating
D-8	Peach	August Pride	300 or less	A large, all purpose yellow freestone peach for milder climates. Sweet, aromatic, rich flavor. It is one of the very best! Ripens 3-4 weeks after the Mid Pride Peach. Self-fruitful.
D-9	Peach	Eva's Pride	100-200	Delicious, fine-flavored, large peach. The yellow-fleshed, freestone peach has a unique red mottle to its interior. Self-fruitful and a heavy producer, with harvest season beginning in late May through late June.
D-10	Pomegranate	Dwarf Red	100-200	This showy, dense, dwarf shrub displays attractive orange-red single flowers at an early age, followed by bright orange-red ornamental fruit. Excellent for containers or for use in the garden. A very effective bonsai specimen. Thrives in hot, dry summer areas. Fruits take between 3-4 years to appear. 3' x 3'.
D-11	Pomegranate	Kandahar Early	100-200	This old world variety, from Afghanistan, has red skin and flesh. With a sweet flavor and just a touch of tartness, it can be eaten fresh or juiced. Self-fruitful. Ripens in September.
D-12	Pomegranate	Parfianka	100-200	Glossy-leaved, ornamental and long-lived tree with showy orange-red blossoms in late spring. Can reach 20'-30' in maturity, but is more commonly seen at 12'-16'. Self-fruitful. Ripens in September.

## Avocado Trees

Row	Fruit	Variety	Description
E-1	Avocado	Brazos Belle	This purple-black fruit is an elongated pear shape, has creamy flesh and high oil content. The skin is shiny and paper thin. A large, upright, somewhat spreading tree. Very cold hardy. Ripens from September to October.
E-2	Avocado	Fantastic	Ripens August to October, usually 6-8 oz. in size, with a dark green, bumpy skin. Reaches 15'-30' tall. Very cold hardy., to 15° F.
E-3	Avocado	Joey™	Founded by Joey Rivers in Uvalde, Texas. Fruit is medium in size and egg shaped. Skin is purple-black in color. Heavy bearer. Ripens from August to October. Extremely cold hardy, to 15° F.
E-4	Avocado	Pancho	The fruit is oval to slightly pear-shaped and is light green in color with a very thin skin. Medium sized fruit, cold hardy to the mid teens, ripens August to September.

## Fig Trees

Some fig varieties produce two crops a year. A *breba* is a fig that develops in the spring on the previous year's cane growth. In contrast, the main fig crop ripens in late summer or fall and develops on the current year's cane growth.

Row	Fruit	Variety	Chill-Hours (See Page 8)	Description
E-5	Figs	Black Mission	100	Pear-shaped fruits with dark purple skin and contrasting red flesh. This popular, low-maintenance plant requires little attention. Can be grown as a tree or shrub. Grows 10'-15'. Prune as needed to maintain size or shape. Produces a <i>breba</i> and a main crop.
E-6	Figs	Celeste	100	Very productive, vigorously growing tree. Ripens before most other fig varieties. Fruits without pollination. Fruit is small and pear-shaped with ribbed sides. Color ranges from purple to brown, tinged with bronze. Pulp is white or amber. Very sweet with a rich, fresh flavor. Can reach 25 feet. Ripens in July.
E-7	Fig	Ischia	100	Well-loved as a container plant because they bear fruit at a young age. A productive yellow-skinned fig. The sweet, succulent fruit is large and can measure up to 2" in diameter with a reddish interior. This fig variety can produce two crops a year, a <i>breba</i> and a main crop. Ripens July to August.
E-8	Fig	Little Ruby	100	Such a slow growing, dwarf fig tree that is a favorite for bonsai. Small, bite size, sweet, ruby red figs are tasty and attractive on the tree. Great container fig and very unique. Produces a <i>breba</i> and a main crop. Plant height only 2'-3'. Ripens early August.
E-9	Fig	LSU Gold	100	Large golden fruit with a ruby blush. Fruit ripens from a light green to attractive yellow. Pulp is light red to pink. Ripe fruit has excellent, sweet fig flavor. Delectable when eaten fresh, but also dries well. Great for preserves! Louisiana State University introduction. Grows well in containers. Heat-tolerant. Ripens in July.
E-10	Fig	LSU Purple	100	Medium sized fruit with mild flavor, high sugar content, and white flesh. Pulp is light amber to light red when ripe. Has a small eye making it resistant to spoilage. Enjoy fresh or dried. Vigorous, upright tree. LSU introduction. Grows well in containers. Heat-tolerant. Ripens from July through frost.

## Almond Tree

Row	Fruit	Variety	Chill-Hours (See Page 8)	Description
F-13	Almond	All-in-One	300-400	A self-fertile cultivar that blooms in late Spring, producing soft-shelled, sweet almonds with sweet, good quality kernels in late September to October. Only grows to about half the size of a normal almond tree, around 15 feet tall. Ideal for backyards or an area where space is an issue.

## Berries

### **Blackberries :**

Blackberries have roots and crowns that are perennial, meaning they will live many years. But the life cycle of the canes is just two years. A blackberry plant has two types of canes: **Primocanes** and **Floricanes**.

**Primocane** means a new cane, or a cane in its first year. A **Floricanes** is a cane in its second year.

**Primocane**-fruiting blackberries, such as **Prime Ark Freedom** and **Prime Ark 45** produce two crops a year: on floricanes (from the previous year) in early summer, and on primocanes (new canes from the current season) later in the growing season.

**Floricanes**-fruiting blackberries, such as **Natchez**, produce a crop of summer fruit once per year on second-year canes.

# Berries (continued)

## Blueberries :

There are two classifications of blueberries that will perform well in the Houston area: **Southern Highbush (A)** and **Rabbiteye (B)**.

**Southern Highbush** varieties are generally self-fertile, but will be more productive if two or three varieties are planted in proximity.

**(A: Emerald, Jewel, Rebel, Sunshine Blue)**

**Rabbiteye** varieties generally require a pollinizer. Plant two or more varieties to insure a crop.

**(B: Climax, Pink Lemonade, Premier, Tifblue)**

Southern Highbush cannot be counted on to pollinize Rabbiteyes and vice versa.

Southern Highbush produce several weeks before Rabbiteyes. The longest harvest can be obtained by planting two or more of each classification.

Southern Highbush plant varieties are generally smaller than Rabbiteye plant varieties.

Blueberries prefer acidic soil (pH 4.5 - 5.0). A near fail-safe way to grow blueberries in almost any soil is to incorporate peat moss into the planting medium. For planting directly in the ground, work up a planting area approximately 2½ feet in diameter and 1 foot deep for each plant. Remove 1/3 to 1/2 of the soil. Add an equal amount of pre-moistened peat moss and mix well. (One 4 cubic foot compressed bale will usually be sufficient for 4-5 plants.) For raised beds, mix equal volumes peat moss with bark (not cedar or redwood), compost or planting mix.

Blueberries will generally begin to produce the second year after planting, but will take 4 – 5 years to reach full production. Depending on the variety of plant, you will probably get 1–2 pints of blueberries the second year. The third year you might expect 2–3 quarts, and the fourth year you should get at least 1 gallon, perhaps more, depending on the size of the fruiting canopy.

Row	Fruit	Variety	Chill-Hours (See Page 8)	Description
F-1	Blackberry	Natchez (PH# 20,891)	400 - 500	One of the first producers of the season. This semi-erect, thornless variety produces large, sweet berries each year. Fruit stores well for extended enjoyment. Summer-bearing floricanes. Ripens in early June. Trains well and grows freely along a fence or other supporting arbor. Floricane fruiting.
F-2	Blackberry	Prime Ark Freedom (PH# 26,990)	150	New release from University of Arkansas, this is the world's first thornless primocane-fruiting blackberry. Fruits very early in the season, and where the climate is suitable, fruits again in the fall. Has exceptional fruit size and flavor. Excellent disease resistance, great heat and humidity tolerance.
F-3	Blackberry	Prime Ark 45 (PH# 22,449)	300	A newer variety. Thorny with erect growing habit. Medium to large fruit holds up well after picking. High temperatures during flowering will reduce yields. Grows 4' - 8' x 3' - 6'. Requires full to partial sun. White blossoms. Generally performs best when staked. Primocane fruiting.
F-4	Blueberry	<b>(A)</b> Emerald (USPP 16476) (Southern Highbush)	250	A mid season variety yielding abundant crops of the largest Southern Highbush berries with a mild, sweet flavor. Its rounded, spreading bush habit makes it a great landscape plant.
F-5	Blueberry	<b>(A)</b> Jewel (USPP 11807) (Southern Highbush)	200	This early to mid season producer is a leading variety due to its exceptional growth, high yields, and large tangy fruit. Makes an excellent landscape plant.
F-6	Blueberry	<b>(A)</b> Rebel (USPP 18138) (Southern Highbush)	400	An early, very productive variety with large, medium blue fruit and impressive yields. Introduced by the University of Georgia in 2005/2006. Semi-spreading and very vigorous.
F-7	Blueberry	<b>(A)</b> Sunshine Blue (Southern Highbush)	150	Mid to late season producer with medium sized, good quality, firm berries. Foliage is slender and is considered a good ornamental. It's upright, compact habit and blue-green foliage that turns burgundy in fall makes this plant especially decorative in pots.

## Berries (continued)

Row	Fruit	Variety	Chill-Hours (See Page 8)	Description
F-8	Blueberry	(B) Climax (Rabbiteye)	450	An early ripening berry that produces medium fruit with a sweet flavor. Outstanding variety for harvesting a large quantity of berries. Growth is upright with intense green foliage.
F-9	Blueberry	(B) Pink Lemonade, Hybrid (Rabbiteye)	200	A pink blueberry! This early to mid season sweet treat is a delight to both the eye and the palate. The delicious berries add sweetness and delectable color to desserts. Bred by the U.S. Department of Agriculture, this beautiful fruiting shrub serves as an attractive ornamental with white-pink flowers in spring and crisp red-orange foliage in autumn.
F-10	Blueberry	(B) Premier (Rabbiteye)	550	An early to mid season producer with large fruit that possesses excellent flavor. Very highly productive. Plant grows upright with good foliage.
F-11	Blueberry	(B) Tifblue (Rabbiteye)	650	A mid season ripening plant with medium to large berries. An upright, vigorous grower. Leaves turn red in the fall making it a good ornamental plant.
F-12	Mulberry	Dwarf	200	Produces sweet medium-sized blackberry like fruit. Berries are about half the size of traditional mulberries. May yield several crops per year. Performs well in pots. Self-fertile. Hardiness to -10 degrees. Bush can grow to a height of 8 to 10 feet. Ripening time occurs July to September.

## Chill Hours Average

Everyone who is interested in growing their own fruit will eventually be faced with the issue of “chill hours”, or chill units (CU) – the terms are interchangeable.

### ***How to determine your Chill Hours Average***

There is an ongoing debate about (CU) definitions and which model to use. We are going to leave that debate to others and use the most commonly accepted model:

**A Chill Unit is an hour of air temperature between 32°F and 45°F, minus all hours above 60°F.**

It is generally accepted that temperatures below 32°F do not contribute to CUs and that temperatures above 60°F detract from CUs. Therefore an hour is subtracted for every hour above 60° F and hours below 32° F are not counted.

The total number of CUs accumulated in an area during an average winter determines the *Chill Hours Average* for that area. Chill Hours do not have to be continuous. They are an accumulation of hours within these temperature parameters.

Some averages in our area:

Gulf & Bay Area	≤300
Hobby Area	≤300
Inner City	≤300
Pasadena-South Bay	350 – 450
Harris County (other than above)	400 – 600
Fort Bend County	400 – 600
Cypress-Bear Creek	≤600
Counties north of Harris	600 – 900

## Chill Hours Average (continued)

Accumulated chill hours can vary from year to year. Unfortunately, one of our best tools to monitor the yearly CU reported by our closest weather station is no longer available and internet charts are largely unreliable. Until a new calculator is developed, we will need to rely on the averages closest to our general location to make wise selections for our temperate fruit tree selections. Master Gardeners work diligently to only provide cultivars that are well-suited to the majority of the Greater Houston Area.

*The above chill hour information is from The Garden Academy, compliments of the owner, Angela Chandler. Among her long list of accomplishments, she is a Harris County Master Gardener, Precinct 2, Retired Status. For additional information regarding chill hours, and to read more about The Garden Academy and Angela Chandler, please go to [TheGardenAcademy.com](http://TheGardenAcademy.com).*

## Plant Your Tomatoes Deep.....

*We know! We know!* This goes against everything you have ever heard about “don’t plant too deeply or you’ll kill the plant.” Tomatoes break that rule. They sprout roots along the buried stem. The extra roots strengthen a plant so it can support more fruit and is better able to survive hot weather. (This applies whether you are growing in the ground, in a raised bed, or in a container.)

In really heavy soil, or if you just do not want to dig deeply, you can lay the plant on its side, provided that it is at least 5 to 6 inches deep when buried, and that the ground beneath it is not hard as a brick. To do this, angle the plant so that the growing tip is above ground. If you lay the plant on its side in the sun for about 24 hours before planting, the tip of the plant will turn up naturally and make planting in that trench much easier. This works particularly well if you have a ‘tall’ tomato plant. If your soil drains poorly, create a raised bed with potting soil that is piled at least 8 inches above ground level.

Once you have nearly buried it in soil, only the top few inches of the plant will be exposed. Water well, label the plant (to help you remember which variety you are growing), and watch your tomato plant grow big and strong. Within a few weeks, your plants, with super roots, will delight you with a beautiful harvest of lovely fruit.

A pepper plant, however, is planted the same depth as its original pot.

### Notes

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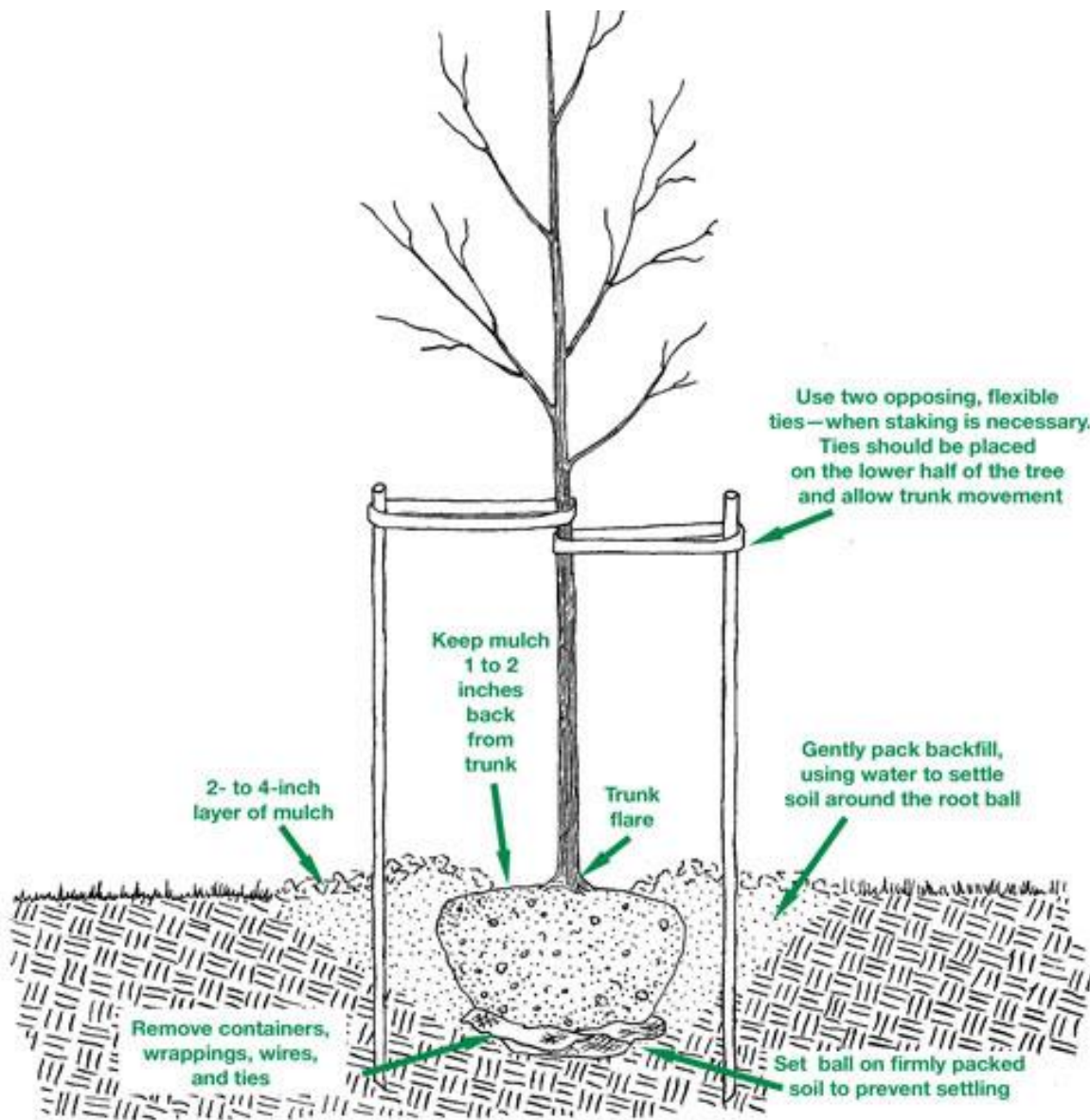
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## How to plant your new tree in the ground



Plant where your fruit trees will receive at least six hours of sun a day during the growing season.

Sun should not be blocked by buildings, fences or other obstacles.

Plant at least three feet from sidewalks and driveways and eight feet away from buildings, as roots will spread wider than the tree crown.

Allow ten to fifteen feet of space between fruit tree

Dig the hole a little deeper than the root is tall — and make it wide enough to accommodate the longest roots without bending.

Loosen the sides of the hole. Roots sometimes do not readily penetrate a slick interface.

Backfill with native or slightly amended soil until the bottom of the hole is at the right planting depth for the tree.

Prune off any broken, rotted or twisted roots, making a clean cut. Use a clean and sanitized pruning shear.

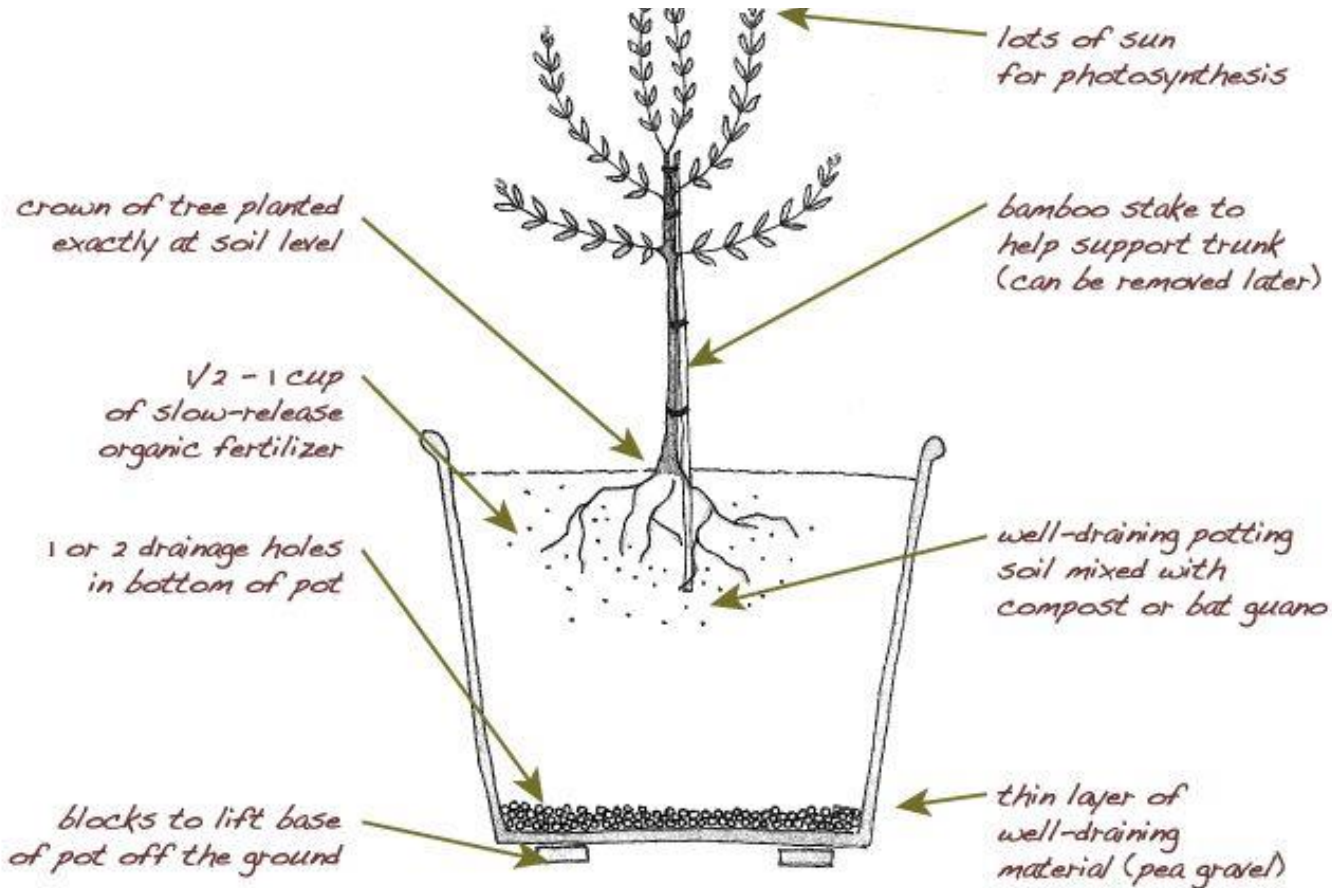
Position the tree, spread the roots and refill the hole, tamping the soil around the roots as you go.

If planting in fast-draining soil, water thoroughly in order to finish settling the soil around the roots. In slower-draining soils, water a little at a time - over several days if necessary.

Mulch a Volcano

Build a watering ring (Volcano) atop the ground around the tree, about 2 to 4 inches high and 6 to 8 inches thick. The ring should be slightly wider than the planting hole. If adequate soil isn't left over from planting, borrow some from the garden. Fill the water basin with water. When the water soaks in, it may be necessary to add a little soil to the holes made as the soil settled around the root system.

## How to plant your new tree in a container



## How to care for your tree the first couple years

1. Once your trees are planted, there will be some maintenance required. The amount will depend on what kind of trees you have planted. Watering, of course, will be the most important task. Mulching will help to retain soil moisture and reduce water needs. Fertilizing with a good organic fruit tree food is also recommended. Follow the directions on the package for application amount and frequency. Most fruit trees will require some pruning, if only to remove any dead or damaged wood. Since pruning differs with each type of fruit tree, we strongly recommend researching the type of pruning to assist you in making the most out of each tree.

Water young fruit tree once every other week. Most fruit trees require that you apply enough water to moisten the soil to a depth of 3 to 4 feet. This is the depth at which most fruit trees extend their roots.

2. Do not apply fertilizer until the tree begins new growth after planting. Fertilize monthly through October. Scatter fertilizer on the ground at least a foot from the tree trunk and promptly water it in thoroughly. Nitrogen is usually the only fertilizer element required in most Texas soils, but additional elements should not do any harm. Consult your local county Extension agent. Available fertilizers may vary in terms of the percentage of nitrogen, but the following is a general rule regarding the quantity to apply:

**Amount of fertilizer per tree, applied monthly, February-October.**

Nitrogen Content: 8-13% First year 1 cup Second year 2 cups Third year 4 cups

Nitrogen Content: 17-21% First year ½ cup Second year 1 cup Third year 2 cups

3. Keep your young fruit tree pest- and disease-free using preventive orchard care. Weed regularly, because weeds often harbor pests and disease while stealing soil nutrients and water. Additionally, always pick up and discard any fallen fruit, rake and remove fallen weeds often, and trim off any dead branches as those often attract rot-related diseases.

4. Treat the fruit tree if pests or disease occur. There are dozens of such potential problems, depending on your region and the type of fruit you have. In most cases, a standard 50 percent concentration copper spray, available in most garden stores and nurseries, resolves most common fruit tree diseases. Meanwhile, insecticidal soap treats most common pests like aphids and mites. Apply such products according to their manufacturer-specific guidelines, as toxicity varies widely by product.

## **How to protect young fruit trees from frost and cold spells**

There are two types of protection for your young fruit trees Passive and Active.

### **Passive protection**

Passive frost protection can minimize risk, decrease the probability or severity of frosts and freezes, or cause the plant to be less susceptible to cold injury. These practices include site selection, variety selection and multiple cultural practices.

The best time to guard your fruit tree from frost is before it is planted, and proper site selection is the best and most effective passive risk-avoidance strategy, use wind breaks, planting on south & east sides of a building, avoid hill tops or deep valleys. Avoid planting at the bottom of a slope — where frost accumulates — or on cold hilltops. Good site selection for frost protection includes good air movement.

### **Active protection**

Active frost protection is getting more attention now with greater numbers of people planting and enjoying growing fruit trees. Active frost protection comes in three basics; the addition of heat, the mixing of warmer air from the inversion layer under radiation frost conditions, or the conservation of heat from the plant.

You can take several simple steps to reduce the risk of frost damage to buds, blossoms and fruit without using heaters, commercial wind machines or overhead sprinklers. If possible, choose fruit varieties less susceptible to frost damage in order to find varieties that bud and bloom later, when frost is less likely to occur. When this is not an acceptable factor like with certain citrus trees other remedies may be necessary.

For existing fruit trees, put off pruning until winter but before approximately February 15<sup>th</sup> around Harris County. If frost is in the forecast when trees are in bloom and the soil has been dry, water the soil a day or two beforehand to a depth of 1 foot (wet soils radiate more heat than dry soils do). To trap extra warmth, cover the wet soil around the bases of the trees with clear plastic until the danger of frost has passed. Bare soil — or soil covered with clear plastic — stores and radiates more warmth. Be certain to also wrap the base of the trunk up to and slightly above the root graft.

Frost blankets can provide frost protection for fruit trees and small fruits. When you place frost blankets around tree trunks, be sure to anchor them on the ground to trap the soil's radiant heat.



The biggest danger comes in the late winter/ early spring when the tree starts to break dormancy. The young leaf buds and shoot growth can be damaged by extreme cold, a late frost can mean a harvest-less year for a tree in bloom. Unfortunately, there is no cure for frost damage; a tree affected during its spring growth and bloom will have to wait until the next year to fruit. Prevention is key to protecting your tree from frost damage.

Know what your fruit tree cold hardiness is before planting and choosing. The first step to preventing frost damage is to select a variety of tree that is cold hardy and has the correct chill hours for your climate. This will reduce or, if you're lucky, eliminate the need to take further steps to protect your tree in the spring.

If your fruit trees are damaged by a late frost, you won't necessarily lose your harvest for the year. Apples, pears and peaches can lose up to 90% of their flower buds without a decrease in harvest.

If temperatures are expected to drop too low once your tree begins budding or blooming, or if sleet or snow is predicted, it's time to take action. If your tree is small enough, you can wrap it in frost blanket bags for the duration of the cold snap. Decorating with mini Christmas lights or C-9 or C-7 Christmas lights will add significant warmth around the tree. On especially colder nights and longer periods of deep chill light and cover with a canvas or large tarp. Uncover when temperatures reach near freezing or slightly above.

Using a large garbage can and putting can over your young and smaller citrus tree the first year and putting three 5-gallon buckets next to the trunk the second year to support the same garbage can because the tree was taller than the garbage can. After that, the tree was on its own.

Heavy frosts during or just after blooming can kill young fruits. In winter, or at any other time of year, if you expect severe frost for the night, cover the fruit trees to prevent damage. Trees that are only one to two years old are especially vulnerable to frost damage and benefit the most from covering

If you expect a long, cold spell, covering fruit trees every night can become tedious. An alternative to covering is to build a wooden framework covered in shade cloth, which protects trees against winter wind and helps keep the heat from the earth in place. Surrounding fruit trees with 5-gallon plastic pails of water also helps harness the heat to protect fruit trees from frost damage. These methods mimic the conditions that protect fruit trees when they are beneath building overhangs or near swimming pools or other bodies of water.

## **Why compost and rose soil mix**

Composting is nature's way of recycling. It is a natural process of breaking down organic matter and turning it back into a rich nourishing substance. With this comes a lot of nutrition and benefits for your landscape and garden. Microorganisms produce a rich earthy substance called humus that is the key component in producing fine compost. Though most people think that compost is a fertilizer, it is a soil amendment. Fertilizers add nutrients to soil; while amendments improve the soil so that plants can make use of those nutrients. A simple way to distinguish the two is to remember that compost feeds the soil and fertilizer feeds the plant.

## **Why DS (Double Screened)?**

DS is made from leaf mold, wood, vegetative debris. The raw materials are ground up and piles made by folding fruits and veggies into the piles. The juices from the fruits and veggie keep the compost with an optimum moisture content during the composting process. In addition, we also populate the piles with a microbe pack that allows for better composting. The piles then are turned and once the pile is mature and ready for processing, we screen a 1st batch with a 3/8" screen. How can you use our Compost DS?

Our compost DS is probably one of the finest fungal compost products you will see anywhere in the US. It's perfect for top dressing, amending, tilling, mulching, spot treating and as a general use compost.

## **Compost Tip:**

Spread about a half-inch to an inch of compost around your trees, shrubs, and/or your lawn, and in your annuals and vegetable gardens. In established gardens, spread the compost on top of the soil, where it will eventually seep into the ground below; or you can lightly fork it over. This can help improve the first 6–10 inches.

In a nutshell all composting is, is just nature's way of recycling. It is a natural process of breaking down organic matter and turning it back into a rich nourishing substance. With this comes a lot of nutrition and benefits for your landscaping and gardening. Microorganisms produce a rich earthy substance called humus that is the key

component in producing fine compost. Though most people think that compost is a fertilizer, it is actually a soil amendment. Fertilizers add nutrients to soil; while amendments improve the soil so that plants can make use of those nutrients. A simple way to distinguish the two is to remember that compost feeds the soil and fertilizer feeds the plant.

### **Rose Soil Mix, it's not just for roses**

Comprised of Composted Fines, Large Grain Angular Sand, Composted Pine Bark, traces of green sand and sulfur soil. This blend is made in Texas and is widely used for color, roses, azaleas, acid loving plants, fruit and veggies.

1. Why choose Rose Mix: loosens soil with organic materials, adds air, and allows water to easily reach roots. Rose mix is one of the best choices of soil for as this soil includes all these main elements and 50 percent of air, it is a perfect soil addition to raised beds, containers and when amending existing clay heavy soils. Rose Mix contains inorganic material such as sand, clay, and silt and organic materials this porous soil absorbs water adequately and quickly.
2. Maintaining the pH: Maintaining the pH of soil is equally important. The optimum pH to grow many vegetables and fruit trees is 6.5. If the soil pH is too alkaline or acidic, it can affect the growth. If you notice any foliage coloration or change in the plant growth, it could be because of the soil pH level.
3. Enriching the soil: Use peat moss to enrich the loamy soil if it contains more clay. Mix in organic compost, peat moss, dried leaf mold, and manure to amend the soil. If you are using a pot, then add the organic matter to the bottom before planting.
4. Keeping the soil healthy: The role of micro-organisms in the soil is very important. They keep the soil condition healthy by breaking down the organic materials and releasing nitrogen. You can help keep the soil microbes happy, by adding in alfalfa meal, decomposed organic matter, compost, kelp meal or fish emulsion.. These ingredients will provide nitrogen, phosphorus, amino acids, potassium, and necessary vitamins to the micro-organism population in the soil.

### **Top 10 Compost Reasons**

- Supply nutrients for plants by providing surfaces where nutrients can be held in reserve in the soil
- Reduces the need for chemical fertilizers.
- Facilitate better drainage by loosening soil structure
- Use less water; Store water in the soil
- Help increase air drainage
- Increase the activity and numbers of soil microorganisms
- Encourage earthworms
- Enhances the ability of vegetables to stand up to common diseases and may improve their flavor and nutrition
- Compost can benefit year-round
- Helps balance the pH of your soil

### **Top 10 Soil Mix reasons**

- Improved plant establishment and growth.
- Dramatically expand access to moisture and nutrients from the soil.
- Increased nutrient and water uptake.
- Increases efficiency of water use.
- Drought tolerance.
- Improved disease resistance.
- Assists in weed suppression.
- Improves soil structure and stability.
- Improves root growth.
- More blossoms and enhances nutritional value

# Urban and Homeowner Soil Sample Information Form

Please submit this completed form and payment with samples. Mark each sample bag with your sample identification and ensure that it corresponds with the sample identification written on this form. \*See sampling and mailing instructions on the back of this form. (PLEASE DO NOT SEND CASH)

**SUBMITTAL AND INVOICE INFORMATION:** This information will be used for all official invoicing and communication.

Sheet \_\_\_ of \_\_\_

Name \_\_\_\_\_ County where sampled \_\_\_\_\_

Mailing Address \_\_\_\_\_ Phone \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_ Email\* \_\_\_\_\_

**CLIENT NAME:** Client name will only be included with information above on result reports.

Name \_\_\_\_\_

Lab Use only \_\_\_\_\_

**Payment Required (DO NOT SEND CASH)**  
 Check/ Money Order (keep your M.O. receipt)  
 Extension of Credit-Bill, AG-257 submitted (page 3)  
 Send Invoice/payment - Aggie Marketplace email address required.

Amount Paid \$ \_\_\_\_\_  
**Make Checks Payable to: Soil Testing Laboratory**  
 This change in payment policy was required to meet State of Texas requirements for extension of credit. If enclosed payment is insufficient, by submission of this form, I agree to make payment for the testing services selected herein and provided upon receipt of invoice from AgriLife Extension.

**SAMPLE INFORMATION (Required) (see options listed below)**

Laboratory # For Lab Use	My Sample ID	Square feet of sampled area	Last Time Fertilized	I previously used fertilizers/organics	I am growing (see below*)	Requested Analyses
Example	Front Yard	2000	5/30/14	5 lbs 21-0-5 per 1000 sqft	F	Select only one box <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/> 9 <input type="checkbox"/> 10 <input type="checkbox"/> 11 <input type="checkbox"/> 12 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/> 9 <input type="checkbox"/> 10 <input type="checkbox"/> 11 <input type="checkbox"/> 12

**\* A \$2.00 mail fee will be charged for all invoice and sample results mailed via USPS. Results and invoice can be emailed in PDF form for free.  email results  Charge \$2 for mailing**

We strongly suggest emailing the laboratory at [soiltesting@tamu.edu](mailto:soiltesting@tamu.edu) prior to shipping your samples. This will provide the laboratory a valid email address for returning your results and invoice. Bounced emails will be billed \$2 and a hardcopy will be mailed to the address listed above.

Annual, Flowers and Gardens	Turfgrass	Trees and Woody Ornamentals	Price
A. Azaleas and Camellias B. Roses C. Annuals D. Vegetable Garden E. Other	F. Common Bermudagrass G. Hybrid Bermudagrass H. St. Augustinegrass I. Centipedegrass J. Buffalograss	M. Pecan trees N. Fruit trees O. Shrubs and Ornamentals P. Shade trees Q. Other trees	\$46 per sample \$32 per sample \$39 per sample \$68 per sample \$88 per sample
<b>1. Routine Analysis (R)</b> (1) (pH, NO <sub>3</sub> -N, P, K, Ca, Mg, Na, S and Conductivity) (This test is a base test for basic fertilizer recommendations.)			
<b>2. R + Micronutrients (Micro)</b> (2) (Adds Zn, Fe, Cu, and Mn to test 1.)			<b>\$32 per sample</b>
<b>3. R + Micro + Boron (B)</b> (3) (Includes Test 2 plus boron) (Recommended for individuals applying compost and manures.)			<b>\$39 per sample</b>
<b>4. R + Detailed Salinity</b> (4) (Includes Test 1 plus detailed salinity analysis) (Recommended for individuals using lower quality irrigation water.)			<b>\$68 per sample</b>
<b>5. R + Micro + Detailed Salinity</b> (5) (Includes Test 2 plus detailed salinity analysis)			<b>\$88 per sample</b>
<b>6. Routine Analysis + Organic Matter</b> (6) (Includes Test 1 plus organic matter analysis)			
<b>7. R + Micro + Organic Matter</b> (10) (Includes Test 2 plus organic matter analysis)			
<b>8. R + Micro + B + Organic Matter</b> (13) (Includes Test 3 plus organic matter analysis)			<b>\$46 per sample</b>
<b>9. R + Texture</b> (determines % sand, silt, and clay)(7) (Includes Test 1 plus textural analysis)			<b>\$32 per sample</b>
<b>10. R + Micro + Texture</b> (11) (Includes Test 2 plus textural analysis)			<b>\$39 per sample</b>
<b>11. R + Micro + B + Organic Matter + Detailed Salinity</b> (14) (Includes Test 6 plus detailed salinity)			<b>\$68 per sample</b>
<b>12. R + Micro + B + Org. Matter + Detailed Sal. + Texture</b> (15) (Includes Test 8 plus textural analysis and detailed salinity and provides the most comprehensive data needed for troubleshooting most plant/soil growing issues (does not address pathogen, pesticide or hydrocarbon issues)).			<b>\$88 per sample</b>
<b>Hardcopy mailed to address listed above</b>			<b>\$2 per invoice</b>
<b>The latest form can be downloaded at the laboratory's website:</b>			
<b><a href="http://soiltesting.tamu.edu">soiltesting.tamu.edu</a></b>			

# TAKING A SOIL SAMPLE FOR FERTILIZER RECOMMENDATIONS

## Where to sample

- A soil sample should represent a given area of your lawn or garden that is treated or used similarly (for example, front yard, back yard, planting bed, garden and etc.).
- Sample areas separately if you observe distinct differences in slope, soil texture (for example sandy areas verses clayey) or water drainage.
- The laboratory does not provide analyses for heavy metals, microbial communities, pesticides or other non-traditional plant-nutrient management uses.

## Collecting a soil sample

- Using a trowel or similar tool, scrape away any non-decomposed plant tissue and materials.
- Next, cut a core or divot 6 inches deep into the soil and place soil in a clean plastic container. Repeat this step 8 to 10 times in the lawn or garden which is being considered for testing.
- Mix all collected soil thoroughly, removing any roots or other visible plant materials and place 2-3 cups of soil in a quart-sized re-sealable heavy gauge plastic bag. Air-dry soil if sample feels wet to the touch.
- Label the bag with a permanent marker, clearly identifying each bag with a simple sample ID matching those used on the front side of this.

## Mailing your soil sample

- Complete the information form on the front page (this information is required for you to receive fertilizer recommendations that are based on your soil test results). Incomplete information (e.g., lack of name, address, crop information and etc.) may result in delay of testing or receipt of results.
- Please include payment with the sample. Please note that the price is per sample. Send check or money order made out to Soil Testing Laboratory. DO NOT SEND CASH.
- Credit card payment information through Aggie Marketplace can be viewed at the laboratory's website. <http://soiltesting.tamu.edu>
- Place the plastic sample bag, completed submittal form, and your check or money order for the appropriate fees in a box or padded envelope and send to: United States Postal Service Other Couriers (FedEx, UPS and etc.)

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### United States Postal Service

**Soil, Water and Forage Testing Laboratory**  
**2478 TAMU**  
**College Station, TX 77843-2478**

### Other Couriers (FedEx, UPS and etc.)

**Soil, Water and Forage Testing Laboratory**  
**2610 F&B Road**  
**College Station, TX 77845**  
**Phone: (979) 845-4816**  
**Email: [soiltesting@tamu.edu](mailto:soiltesting@tamu.edu)**

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**Website: [soiltesting.tamu.edu](http://soiltesting.tamu.edu)**